IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

BAYER SCHERING PHARMA AG & BAYER HEALTHCARE PHARMACEUTICALS INC. **Plaintiffs and Counterclaim Defendants,** **v.** **BARR LABORATORIES, INC.** **Defendant and Counterclaim Plaintiff.**	**Civil Action No. 05-2308 (PGS) (ES)** **Hon. Peter G. Sheridan, U.S.D.J.** **Hon. Esther Salas, U.S.M.J.** **Filed Electronically**

BAYER SCHERING'S TRIAL BRIEF

William O'Shaughnessy
Nicole Corona
Jonathan M.H. Short
McCARTER & ENGLISH, LLP
Four Gateway Center
100 Mulberry Street
Newark, New Jersey 07102
Phone: (973) 622-0444
Facsimile: (973) 624-7070

Attorneys for Plaintiffs Bayer Schering Pharma AG and Bayer HealthCare Pharmaceuticals Inc.

Of Counsel:
Peter B. Bensinger, Jr.
Michael J. Valaik
Adam K. Mortara
Sundeep K. Addy
BARTLIT BECK HERMAN PALENCHAR & SCOTT LLP
Courthouse Place
54 West Hubbard Street
Chicago, Illinois 60610
Phone: (312) 494-4400
Facsimile: (312) 494-4440

Nicholas N. Kallas
Filko Prugo
FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, NY 10112
Phone: (212) 219-2100
Facsimile: (212) 218-2220

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Cases

Statutes

Regulations

INTRODUCTION

This is a patent case involving one of the world's leading birth control pills, Yasmin®. Plaintiffs Bayer Schering Pharma AG and Bayer HealthCare Pharmaceuticals Inc. (together, "Bayer Schering") invented and developed Yasmin®, bringing it to market in the United States in 2001. Yasmin® is the best-selling brand oral contraceptive in the United States.

The patent-in-suit is Bayer Schering's Patent No. 6,787,531, which covers the Yasmin® formulation. (JX1, '531 patent.)[1] Defendant Barr Laboratories, Inc. ("Barr") wants to market a generic version of Yasmin®. Thus, Barr filed an Abbreviated New Drug Application ("ANDA") with the Food and Drug Administration ("FDA") and notified Bayer Schering, which timely sued Barr for patent infringement under the Hatch-Waxman Act, 35 U.S.C. § 271(e)(2)(A)(2000).

Barr admits that its generic version of Yasmin® infringes the '531 patent. (Docket Doc. No. 86.) The only issues for trial are whether Barr can prove by clear and convincing evidence that the asserted '531 patent claims are invalid or unenforceable. Barr must offer evidence that will "place in the ultimate factfinder an **abiding conviction** that the truth of [Barr's] factual contentions are '**highly probable**.'" *Colorado v. New Mexico*, 467 U.S. 310, 316 (1984) (emphases added). Barr has three arguments that the '531 patent is invalid or unenforceable: obviousness, public use, and inequitable conduct.

OBVIOUSNESS

A patent may be declared invalid if the claimed invention would have been obvious to a person of ordinary skill in the art, based upon what was publicly known at the time (the prior art). *See* 35 U.S.C. § 103(a). Predictability is the touchstone of the obviousness inquiry. *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007).

[1] All citations to "JX," "PTX," and "DX" refer to trial exhibits attached to the Certification of Adam K. Mortara in Support of Bayer Schering's Trial Brief.

The asserted patent claims all involve a formulation of low dose (2-4 mg) micronized "drospirenone" -- the key active ingredient in Yasmin®. The low dose micronized formulation means that a large percentage of the dose dissolves in the stomach. Unlike the active ingredients in other prior art oral contraceptives, however, drospirenone is acid sensitive. Once dissolved in acid, drospirenone will change into an inactive "isomer," as we explain below. Thus, an issue for trial is whether Barr can prove by clear and convincing evidence that it would have been obvious to the skilled person to take an acid sensitive oral contraceptive and dissolve it in the very acidic environment to which it is sensitive, much less to "micronize" it to expose it faster to that acid.

Because the prior art teaches that drospirenone is acid sensitive, the skilled person would have formulated low dose micronized drospirenone for oral contraception with an "enteric coating" to protect it from stomach acid. The skilled person would not have dissolved it in the stomach, as claimed in the patent. In fact, the skilled scientists at Bayer Schering formulated low dose micronized drospirenone with an enteric coating for five years and did six clinical studies before they invented the claimed formulation, which dissolves acid sensitive low dose micronized drospirenone in the acidic stomach. It was surprising that this formulation worked.

To prevail, Barr must give this Court an **abiding conviction** that the conduct of Bayer Schering scientists over five years was foolhardy and contrary to what Barr today says was obvious. Barr relies on hindsight, without which the invention's success is unpredictable.

PUBLIC USE

Barr contends that Yasmin® was publicly used in the United States before the "critical date" of August 31, 1998 (*i.e.*, one year before the filing of the patent application). 35 U.S.C. § 102(b). Barr argues that Bayer Schering's U.S. clinical trial that tested the safety and efficacy of Yasmin® is an invalidating public use because: (a) study subjects used the study drug before August 31, 1998; and (b) the study subjects did not sign individual confidentiality agreements.

In keeping with industry practice and medical ethics, Bayer Schering did not require clinical study subjects in the U.S. trial to sign individual confidentiality agreements. Instead, Bayer Schering required study subjects to adhere to the study protocol by taking their pills as directed, keeping a log, and returning any unused pills. The study subjects did not know the study drug's formulation. Also in keeping with industry practice, Bayer Schering required all study investigators (doctors) and third-party vendors to sign confidentiality agreements. Barr cannot cite any authority holding that a U.S. clinical trial invalidates a U.S. patent as a "public use" simply because study subjects in a clinical trial did not sign confidentiality agreements.

Moreover, an otherwise public use will not invalidate a patent if the use was experimental. *Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.*, 471 F.3d 1369, 1381 (Fed. Cir. 2006). Bayer Schering conducted the FDA-approved U.S. clinical trial as an experiment -- to test the safety and effectiveness of Yasmin® in the U.S. population.

INEQUITABLE CONDUCT

A challenger can render a patent unenforceable by proving with clear and convincing evidence that the applicant breached a duty of candor and good faith when prosecuting the patent before the U.S. Patent and Trademark Office ("PTO").[2] *Novo Nordisk Pharms., Inc. v. Bio-Tech. Gen. Corp.*, 424 F.3d 1347, 1361-62 (Fed. Cir. 2005). Proving inequitable conduct requires both a material misrepresentation to the PTO and an intent to deceive. *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1348 (Fed. Cir. 2007).

Barr alleges that Dr. Herman Ellman and Dr. Ralph Lipp submitted to the PTO during the '531 prosecution declarations with material misrepresentations. But unlike cases of omission,

[2] Inequitable conduct allegations now appear in almost every patent case, a practice that the Federal Circuit has characterized as "an absolute plague," diverting courts from genuine issues and spawning satellite litigation. *See Burlington Indus., Inc. v. Dayco Corp.*, 849 F.2d 1418, 1422 (Fed. Cir. 1988).

here, the Ellman and Lipp declarations both provided the material information the Patent Examiner needed to assess patentability. Barr also cannot show that either Dr. Ellman or Dr. Lipp had any intent to deceive the PTO.

BACKGROUND

ORAL CONTRACEPTIVES

Oral contraceptives prevent pregnancy. They must be effective ~ 99% of the time when taken as directed. This level of efficacy distinguishes oral contraceptives from other types of drugs. Also, doctors prescribe oral contraceptives as a "one-dose-fits-all" drug. The dose is the same for all women and must work for all women in the target population. A failure rate of more than 1% is unacceptable. Thus, if the formulation of the oral contraceptive does not prevent pregnancy in even a small segment of the targeted population, the formulation is unacceptable.

Most oral contraceptives contain two different steroid hormones -- a "progestin" and an "estrogen." Pills with both a progestin and an estrogen are called "combined" oral contraceptives. Progestins inhibit ovulation, resulting in a contraceptive effect.

Yasmin® is a combined oral contraceptive and its key active ingredient is the progestin drospirenone. Drospirenone has three effects on the body or "pharmacological properties," and "[f]rom the standpoint of patent law, a compound and all of its properties are inseparable; they are one and the same thing." *Application of Papesch*, 315 F.2d 381, 391 (C.C.P.A. 1963). Drospirenone's first property is its progestogenic or contraceptive effect, which means it inhibits ovulation. Second, drospirenone has an anti-bloating (or anti-mineralocorticoid) effect, which means it counteracts water retention caused by the estrogen component. Third, drospirenone has an anti-acne (or anti-androgenic) effect. Oral contraceptives with drospirenone are the only drugs on the market that have all three of these pharmacological properties or effects on the body.

ACID SENSITIVITY AND ISOMERIZATION

Bioavailability measures how much of the active ingredient makes it into the bloodstream. Many factors affect bioavailability, including whether the active ingredient **isomerizes**. Ensuring adequate drug bioavailability is critical to drug development.

The stomach is an acidic environment. Acidity is measured on a pH scale, with lower numbers representing higher acidity. The pH scale is logarithmic, which means a pH of 1 is ten times more acidic than a pH of 2. Stomach acid is hydrochloric acid (HCl), which has a pH of 1. The stomach's pH varies from person to person, as well as within the same person, and ranges from about pH 1 to 3. Stomach pH is low after fasting and usually higher after a meal.

Drospirenone is acid sensitive. When drospirenone dissolves in pH 1 acid, its physical structure changes. The changed molecule is no longer drospirenone but is instead called an "isomer." This rearrangement process is called "**isomerization**."

An isomer can be "inactive," meaning it lacks the original molecule's pharmacological effects. The prior art teaches that drospirenone's isomer lacks the anti-bloating effect. Barr's experts agree that the skilled person would not have known whether drospirenone's isomer would have contraceptive effect, although today it is known that the isomer has no such effect. Isomerization reduces the number of drospirenone molecules that are available to be delivered to the bloodstream, leading to lower drospirenone bioavailability.

To prevent isomerization of an acid sensitive drug in the stomach, the formulator can protect it with an "enteric coating" ("enteric" is based on the Greek "enterikos" for intestines). An enteric coating provides a protective shield in acid but breaks apart in the less acidic environment of the intestine, where the drug is released to dissolve and be absorbed in the body.

DISSOLUTION AND SOLUBILITY

A molecule must be dissolved before isomerization or absorption can occur. Dissolution is the process by which an active ingredient enters into solution or "dissolves." Dissolution rate is the speed of the dissolution process. Solubility is a fixed property of a molecule, which determines how much of the molecule can dissolve in a certain volume of liquid or solvent.

Formulators use certain techniques to increase or decrease dissolution rate. One of these is "micronization." Micronization is the process of breaking up large particles into smaller particles to increase the overall surface area. Micronization can increase the dissolution rate of a drug but does not always do so. Micronization does not affect solubility.

Drugs can also be administered in their "macro" crystalline form, which means delivering larger particles of the active ingredient. Macrocrystals dissolve slower than micronized particles.

ARGUMENT

I. THE ASSERTED CLAIMS OF THE '531 PATENT ARE NOT OBVIOUS

A. The Legal Standard

Federal law gives the '531 patent a presumption of validity. 35 U.S.C. § 282. "The presumption of validity is based on the presumption of administrative correctness of actions of the agency charged with examination of patentability." *Applied Materials, Inc. v. Advanced Semiconductor Materials Am., Inc.*, 98 F.3d 1563, 1569 (Fed. Cir. 1996). A U.S. Patent Examiner is a government official "[1] trained in the law . . . [2] presumed to have some expertise in interpreting the prior art references . . . [3] familiar from their work with the level of skill in the art . . . [4] whose duty it is to issue only valid patents." *Markman v. Westview Instr. Inc.*, 52 F.3d 967, 986 (Fed. Cir. 1995) (internal citation omitted). For these reasons, this Court is

to "assume that the PTO has done its job properly, absent clear and convincing evidence to the contrary." *Superior Fireplace Co. v. Majestic Prods. Co.*, 270 F.3d 1358, 1380 (Fed. Cir. 2001). For Barr to meet this high burden, it must give the Court "an **abiding conviction** that the truth of [Barr's] factual contentions are '**highly probable**.'" *Colorado v. New Mexico*, 467 U.S. 310, 316 (1984) (emphases added).

In *KSR*, the Supreme Court recently addressed the legal standard for proving obviousness. *KSR* reaffirmed the Court's previous decision in *Graham v. John Deere Co.*, 383 U.S. 1 (1966). *KSR*, 127 S. Ct. at 1734. *Graham* sets out the steps of an obviousness inquiry:

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

Id. at 17-18.[3]

Under *KSR*, a patent claim is obvious only if the skilled person would have been able to predict the result of the claimed invention or predict the solution to the problem to be solved:

- "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield **predictable results**." *KSR*, 127 S. Ct. at 1739 (emphasis added).
- "If a person of ordinary skill can implement a **predictable variation**, § 103 likely bars its patentability." *Id.* at 1740 (emphasis added).
- "When there is a design need or market pressure to solve a problem and there are a finite number of identified, **predictable solutions**, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp." *Id.* at 1742 (emphasis added).

[3] The parties do not have a substantial disagreement as to the level of ordinary skill in the art in this case. Both parties' experts agree that a person of ordinary skill in the art would have a Ph.D. in pharmaceutical science or a related field and experience in formulation. Alternatively, both parties also agree that a person of ordinary skill in the art could have an undergraduate degree in pharmacy and several years of experience in formulation.

KSR did not disturb the long-established patent law doctrine that an invention is not obvious if prior art "teaches away" from the invention. *See id.* at 1740 ("[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious."). Prior art teaches away from an invention when it leads the skilled person "in a direction divergent from the path that was taken by the applicant . . . ." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Thus, prior art teaches away from an invention when that art leads the skilled person to a solution to the problem that is not the claimed invention.

B. The Prior Art Does Not Render The '531 Invention Obvious

1. Nickisch Teaches That Drospirenone Is Acid Sensitive

The skilled person would know that drospirenone is acid sensitive. The Nickisch 1986 reference teaches this fact. (JX3.) Nickisch teaches that, in a pH 1 environment at room temperature, drospirenone changes into its isomer such that within 3 hours only 20% of drospirenone remains. (*Id.* at SBPL03500638.)

The pH of the stomach ranges from 1 to 3. The skilled person would know that higher temperatures make isomerization faster -- the body is about 30°F (17°C) warmer than the conditions in Nickisch's experiment. Thus, the skilled person would conclude that drospirenone would degrade in a pH 1 human stomach faster than in Nickisch's experiment. [4]

[4] The Krause 1982 reference also reports on the *in vitro* instability of drospirenone in pH 1, but reports time results different from Nickisch. (JX4.) Krause 1982 reports it took 400 minutes (over twice as long as in Nickisch) to convert 80% of the drospirenone into its isomer. (*Id.* at SBPL03501294.) Because Krause added solid drospirenone to 2 mL of acid, the skilled person would understand that the Krause 1982 *in vitro* experiment used slower dissolving macrocrystals. For this reason, Krause's time graph (Fig. 4) reflected two processes occurring at the same time: 1) dissolution of the macrocrystals and 2) isomerization of the dissolved compounds. Krause's use of macrocrystals explains the time differences between Krause 1982 and Nickisch 1986. While Barr alleges that the skilled person would think that the Krause 1982 experiment used pre-dissolved drospirenone, the evidence will show that that proposition is wrong as a matter of fact. Dr. Krause's research report (PTX8.) shows his experiment measured both dissolution and isomerization.

Barr argues the skilled person would not rely on the teachings in the Nickisch reference because it is *in vitro* lab data. Yet, this is the very type of data the skilled formulator uses to make formulation decisions. The United States Pharmacopeia ("USP") is the official public standards-setting authority for all prescription medicines marketed in the United States. At the time, the USP set standards for formulation *in vitro* testing, which is a surrogate for the *in vivo* (human) environment. Barr's suggestion that the skilled person would *always* test an acid sensitive drug *in vivo* before deciding to use an enteric coating is wrong.

2. Barr's Prior Art Does Not Address The Problem Of Formulating An Acid Sensitive Drug As A Low Dose Oral Contraceptive

The skilled person had to solve the problem of formulating a low dose **oral contraceptive** containing **acid sensitive** drospirenone (low dose, 2-4 mg) and ethinyl estradiol (low dose, 0.01 to 0.05 mg). '531 claim 1 is one of the inventors' solutions to this problem:

Claim 1: A pharmaceutical composition comprising

- from about 2 mg to about 4 mg of micronized drospirenone particles,
- about 0.01 mg to about 0.05 mg of 17α-ethinylestradiol,
- and one or more pharmaceutically acceptable carriers,
- the composition being in an oral dose form exposed to the gastric environment upon dissolution, and
- the composition being effective for oral contraception in a human female.

Barr contends the closest prior art to the claimed invention is the Oelkers 1995 article. (JX8.) Inventor Renate Heithecker is a co-author of this article, which reports on some of the early clinical studies of Yasmin® in Europe. (*Id.* at SBPL03400600.) Oelkers 1995 discloses that drospirenone and ethinyl estradiol in the claimed dose ranges were used for oral contraception. The Oelkers 1995 reference, however, does not teach two key claimed formulation elements -- "**micronized drospirenone**" and "**expos[ure] to the gastric environment upon dissolution**." These two limitations of the '531 patent claims are critical and nowhere in Oelkers 1995.

Barr relies on two groups of prior art, which Barr cobbles together to supposedly render the claimed invention obvious. Barr's first group of art relates to oral contraceptives or other drugs that are **not acid sensitive**:

Reference	*Not acid sensitive drug(s)*
Fotherby 1996 (JX20.)	Progesterone, Norethisterone, Levonorgestrel, Desogestrel, Gestodene, Norgestimate, Medroxyprogesterone Acetate
McInnes 1982 (JX19.)	Spironolactone
Maxson 1985 (DX213.)	Progesterone
Physicians' Desk Reference 1996 (DX259.)	Levonorgestrel, Norgestimate, Desogestrel, Norgestrel, Norethindrone, Ethynodiol Diacetate

Barr's second group of prior art relates to acid sensitive drugs that are **not oral contraceptives**. Because oral contraceptives need to be at least 99% effective as one dose for all women, a possible loss of bioavailability is a far more serious problem for oral contraceptives. The table below gives examples of Barr's prior art that has no bearing on oral contraceptives:

Reference	*Drug and Indication*
Pharmaceutical Codex (PTX148.)	Digoxin -- heart drug that treats arrhythmias
Shah 1989 (JX23.)	Etoposide -- chemotherapy drug for lung cancer
Krause *in vivo* studies (JX4, JX5, JX6.)	Spirorenone -- diuretic; **not** a progestin

The skilled person would not rely on Barr's prior art in formulating a low dose, acid sensitive oral contraceptive because Barr's prior art oral contraceptives are not acid sensitive and because Barr's prior art acid sensitive drugs are not oral contraceptives. Barr cannot identify any prior art or combination of prior art that teaches a formulation of a low dose micronized acid sensitive active ingredient for oral contraception that dissolves in the stomach.

The prior art would lead the skilled person to use an enteric coating to protect low dose micronized drospirenone for oral contraception. This is what the skilled scientists at Bayer Schering did for five years until inventors Johannes Tack and Michael Hümpel made the unpredictable finding that dissolving low dose micronized drospirenone in the stomach afforded

the same bioavailability as a formulation with an enteric coating. This was surprising and patentable. It was not predictable or obvious.

3. The Skilled Person Would Be Concerned About The Acid Sensitivity Of Low Dose Micronized Drospirenone

a) The Skilled Person Would Read The Krause Articles And Still Be Concerned About Isomerization Of Drospirenone *In Vivo*

Barr contends that three articles by Werner Krause about spirorenone (a diuretic) teach the skilled person that drospirenone would not isomerize *in vivo*. Barr argues this is so because Krause's *in vivo* blood tests did not detect any spirorenone isomer in humans and monkeys. Barr argues that since spirorenone and drospirenone have similar molecular structures, the skilled person would rely on high dose spirorenone experiments in solving formulation problems with low dose micronized drospirenone. Yet, Barr **ignores** dose differences and that the spirorenone and drospirenone molecules are pharmacologically different. Spirorenone is a diuretic, **not** a progestin (contraceptive). Drospirenone is a progestin that can be used in an oral contraceptive.

The Bayer Schering inventors were persons of skill in the art and were aware of these dose and pharmacological differences as they sought to formulate acid sensitive lose dose micronized drospirenone for an oral contraceptive. How the Bayer Schering scientists approached the formulation problem sheds light on how the skilled person would interpret the Krause data. Dr. Krause actually worked with inventors Tack and Hümpel. Krause participated in drospirenone development meetings with Tack. Krause performed his spirorenone experiments working under inventor Hümpel.

The Bayer Schering scientists knew that *in vivo* results about the diuretic spirorenone taught little about how to formulate low dose micronized drospirenone as an oral contraceptive. First, Krause himself wrote in his 1983 article that the spirorenone "isomer **might have been**

formed in the acidic environment of the stomach, but in vivo it could not be found in plasma . . . ." (JX5.) Second, Krause wrote in a study report that the high doses of spirorenone he used would avoid significant isomerization *in vivo* thereby maintaining spirorenone's efficacy as a diuretic because the percentage of the total dose that could dissolve in the stomach was so small:

Conclusion

It does not appear very probable that ZK 35 973 is converted to any great extent into its inactive isomer in the stomach. The reasons for this are as follows:

(1) The isomerization takes place relatively slowly.

(2) The doses of 10-320 mg envisaged for the planned human trial are presumably not completely dissolved in the stomach (volume of gastric fluid: about 120 ml (1)).

(PTX8, SBPL00002496.)[5] Finally, the Bayer Schering scientists knew that the blood test Krause used on his human subjects and monkeys could not detect low blood levels of spirorenone isomer. These low levels of isomer posed no problem for the development of a high dose diuretic like spirorenone but would be fatal to the development of a low dose oral contraceptive. In his 1983 article, Krause acknowledged that he only looked for the spirorenone isomer in the blood and that the isomer could have formed in the stomach and remained undetected. (JX5.)

Barr's hindsight analysis of how the skilled person would view the Krause articles also conflicts with the objective contemporaneous record of how the skilled scientists at Bayer Schering viewed the same data -- long before there was litigation bias.

[5] ZK 35 973 is spirorenone. In his *in vitro* study, Krause used slower dissolving macrocrystals and measured as the "time course of acid catalyzed rearrangement" both the dissolution of the macrocrystals and the isomerization reaction time. (PTX8.) Krause's data showed 80% isomer at 400 minutes due the additional time for the macrocrystalline compounds of spirorenone and drospirenone to dissolve. Thus, Krause concluded that the overall process occurred "relatively slowly." (*Id*.) This is in contrast to Nickisch's data, which showed that 80% of the drospirenone isomerized within 180 minutes (3 hours) (JX3.).

b) The Skilled Person Would Seek To Preserve The Anti-Bloating Effect Of Drospirenone

The prior art teaches that the drospirenone isomer would lack an anti-bloating effect. (PTX14, Casals-Stenzel 1984.) Drospirenone's anti-bloating effect would be important to the skilled person for two reasons. First, the anti-bloating effect differentiates drospirenone from all the other oral contraceptives on the market -- it is a critical property the person of skill would seek to preserve. (JX1, '531 patent col. 4, lines 9-12.) Second, the anti-bloating effect of drospirenone is an incentive for women to comply with the oral contraceptive regimen because it reduces the adverse side effect of water retention. This enhances oral contraceptive effectiveness. Therefore, the skilled person would seek to preserve drospirenone's anti-bloating effect.

Barr contends the skilled person would not care about the loss of the anti-bloating effect and would focus instead on whether the drospirenone isomer would have a contraceptive effect.[6] Barr acknowledges that the prior art does not teach whether the drospirenone isomer has contraceptive effect. Barr's experts concede the skilled person would not assume one way or another whether the isomer has contraceptive effect. Therefore, the skilled formulator would never assume that the drospirenone isomer had the same pharmacological properties as drospirenone itself, but would instead err on the side of caution and preserve the bioavailability of the known active ingredient by using an enteric coating. As Barr conceded at the tutorial, today it is known that the drospirenone isomer has no contraceptive effect.

---

[6] Barr argues that the prior art cannot teach away from the claimed invention because the anti-bloating effect of drospirenone is not claimed in the '531 patent. Barr is wrong. First, "[f]rom the standpoint of patent law, a compound and all of its properties are inseparable; they are one and the same thing." *Application of Papesch*, 315 F.2d 381, 391 (C.C.P.A. 1963). Second, there is no authority for the proposition that when the prior art teaches that a claimed invention would suffer from a **disadvantage** ("teaches away" from the invention) that the inventor must claim the corresponding **advantage**. *See, e.g.*, *Ecolochem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1379-80 (Fed. Cir. 2000) (finding prior art taught away from claimed process because prior art taught that process would be "inefficient" and "expensive" -- where process claims did not need to state that claimed process was efficient or inexpensive).

C. The Objective Evidence Of Low Dose Drospirenone's Development Contradicts Barr's Obviousness Contentions

Barr's obviousness case is based on testimony from paid experts in 2007. Yet, the best and most objective evidence of whether the '531 invention would have been obvious are Bayer Schering documents created at the time detailing drospirenone's formulation development. Faced with the problem of formulating acid sensitive micronized drospirenone as a low dose oral contraceptive, the Bayer Schering scientists and inventors formulated low dose micronized drospirenone with an enteric coating to protect it from acid isomerization in the stomach. These scientists were persons of ordinary skill in the art. They knew all about the Krause data. Yet, for five years from 1983 to 1988, these scientists conducted animal and human studies with an enterically coated formulation to prevent acid sensitive drospirenone from isomerizing:

> In stability tests, it was found that ZK 30 595 undergoes rearrangement to give its isomer (ZK 35 096) in 0.1 N HCl, which corresponds approximately to the pH conditions in the stomach. This might lead to reduced bioavailability of the unchanged active ingredient. The formulation was consequently changed and a tablet resistant to gastric fluid (SH T 470 B containing 1 mg ZK 30 595) was developed.

(PTX17, SBPL02287835.) (ZK 30 595 is drospirenone; ZK 35 096 is its isomer and a "tablet resistant to gastric fluid" is an enteric coated tablet.)

In Spring 1988, inventor Tack gave a presentation to graduate students at the Free University in Berlin where he stated that the use of an enteric coating was necessary for drospirenone (but not for spironolactone, one of the prior art drugs Barr relies on that is **not** acid sensitive like drospirenone). (PTX10.)

Soon after this presentation, inventors Tack and Hümpel sought to quantify the effectiveness of the enteric coated formulation at protecting against isomerization in stomach acid. They did a small clinical study, comparing the enteric coated formulation to one without an

enteric coating. The result was a surprise. The experiment showed that dissolving drospirenone in the stomach did not hurt its bioavailability. (PTX 7.) This was an unpredicted outcome.[7]

The Federal Circuit has confirmed that this sort of development evidence is probative of non-obviousness. In *Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368 (Fed. Cir. 2006), the defendant Apotex (the generic challenger) sought to invalidate the innovator company's patent on grounds of obviousness. *Id.* at 1378. The Federal Circuit affirmed the district court's conclusion that Apotex failed to raise a substantial question of obviousness, citing the inventor's internal development path and experimentation for support:

> The [district] court also noted that a named inventor, Dr. Badorc, tested twenty different salts before discovering that bisulfate had the most desirable properties. Thus, the court found that it would not have been obvious to a person of ordinary skill in the art to prepare clopidogrel bisulfate from reading the [prior art] in light of the extensive experimentation that was required to arrive at that particular compound. We discern no clear error with respect to those factual determinations or the legal conclusion.

Id. at 1379. *See also Sanofi-Synthelabo v. Apotex, Inc*., 488 F. Supp. 2d 317, 333-34, 337 (S.D.N.Y. 2006) (relying on internal testing and development activities in obviousness inquiry).

The *Sanofi* district court later upheld the validity of Sanofi's patent and again relied on internal testing and development activities:

> Sanofi spent four years and "tens of millions of dollars" developing and extensively testing the racemate PCR 4099 before deciding to try separating the enantiomers of the racemic mixture. **The superiority of clopidogrel to PCR 4099 -- which was only confirmed later -- was clearly not obvious to the chemists at Sanofi**. Apotex has not made a persuasive case to provide an

[7] Barr may argue that the final *in vivo* experiment that inventors Tack and Hümpel performed was somehow preordained or "obvious to try," and that therefore the invention was obvious. Barr misreads *KSR*, which holds that a combination that is "obvious to try" is only obvious if the combination represents a "predictable solution" to the problem to be solved. *KSR*, 127 S. Ct. at 1742. Inventors Tack and Hümpel did not predict that dissolving low dose micronized drospirenone in the acidic stomach would be a solution to the formulator's problem. Tack and Hümpel ran an experiment and got a surprising result. Thus, Barr cannot rely upon "obvious to try" as a basis for invalidity without proving under *KSR* that the result or solution to the problem to be solved would have been predictable to the person of skill in the art at the time.

> explanation as to why the skilled chemists at Sanofi, furthermore, would have acted -- as Apotex contends -- so contrary to the hypothetical person of ordinary skill in the art.

Sanofi-Synthelabo v. Apotex, Inc., 492 F. Supp. 2d 353, 390-91 (S.D.N.Y. 2007) (internal citation omitted) (emphasis added).

If Barr is right, all of Bayer Schering's five years of work with an enterically coated formulation was a colossal waste of time, effort and money.[8] According to Barr, it would have been "obvious" that an enteric coating was not needed. But this was **not** obvious to the '531 patent inventors, the other Bayer Schering scientists, or their colleague Krause.

II. BAYER SCHERING'S U.S. CLINICAL TRIAL WAS NOT A "PUBLIC USE"

Bayer Schering conducted a clinical trial in the United States beginning in December 1996 using a study drug that the FDA approved in 2001 as Yasmin®. Barr alleges that this U.S. clinical trial was an invalidating "public use."

A. The Legal Standard

Section 35 U.S.C. § 102(b) provides that a challenger can invalidate a patent upon proof that the invention was "in public use . . . in this country, more than one year prior to the date of the application for patent in the United States." In our case, the application date is August 31, 1999, so Barr must prove a "public use" in the United States before August 31, 1998. Any use outside of the United States cannot be a public use "**in this country**." *Id*. (emphasis added).

To invalidate the patent, Barr must first show that the U.S. clinical trial was "public," which means "use of [the claimed] invention by a person other than the inventor who is under no limitation, restriction or obligation of secrecy to the inventor." *Eli Lilly*, 471 F.3d at 1380

[8] Barr makes several arguments regarding the undesirability of enteric coatings, including that they are expensive, introduce an extra manufacturing step, and introduce unacceptable levels of inter-subject variability in bioavailability. Each of Barr's arguments is wrong as a matter of fact, as the evidence and testimony at trial will show.

(citation omitted). Second, if Barr proves that the clinical trial was "public," Barr must proceed to prove also that such use was non-experimental. *Id.* at 1381 ("Even a use that occurs in the open may not invoke a bar when undertaken to experiment on or with the claimed invention.").

Barr must prove "public use" by "clear and convincing evidence." *Bernhardt, L.L.C. v. Collezione Europa USA, Inc.*, 386 F.3d 1371, 1378 (Fed. Cir. 2004).

B. The U.S. Clinical Trial Was Not Public

Bayer Schering's U.S. clinical trial involved over 300 subjects, six Clinical Investigators, two Contract Research Organizations to perform clinical laboratory and monitoring services, and an Institutional Review Board ("IRB") to approve the Protocol and Informed Consent materials.

Bayer Schering took precautions to keep its U.S. clinical trial confidential. It:

- Established "Confidentiality" of the "Protocol, Case Report Form, and Investigator's Brochure" and restricted Clinical Investigators running the trial from disclosing information to others "without written authorization from [Bayer Schering]" (JX10, Study Protocol ¶ 12.9, Ellman Decl. Ex. A.);

- Restricted the subjects from keeping any study drug upon withdrawal from the study, including empty "blister" packs of the drug, to verify compliance (*Id.*, Informed Consent 8, Ellman Decl. Ex. H.);

- Restricted Clinical Investigators to keep "in confidence" the "protocol, case report forms, and data derived from the study" except to the subjects, clinical personnel in the study, and the IRB (*Id.*, Investigator Agreement Letters 1, Ellman Decl. Ex. C.);

- Took measures to ensure that the study drug was kept in a secure area, along with controls regarding dispensing the drugs to study subjects and to ensure the return of all "unused study drug, including opened and unopened labeled containers" (*Id.*, Study Protocol ¶ 12.1, Ellman Decl. Ex. A.); and

- Marked the "Protocol" and "Confidential Investigator's Brochure" as CONFIDENTIAL and restricted dissemination of information in the Brochure, adding the legend on the cover page: "Information contained herein is for the use of investigators only and may not be reproduced in writing or in oral presentation without the permission of [Bayer Schering]" (*Id.*, Study Protocol and Investigator's Brochure, Ellman Decl. Exs. A & D.)

Such efforts show that the U.S. clinical trial was not "public." *See Eli Lilly*, 471 F.3d at 1380-81.

Barr's only argument that the U.S. clinical trial was public is that the individual study subjects did not sign individual confidentiality agreements. The lack of confidentiality agreements between Bayer Schering and the subjects standing alone does not render the U.S. clinical trial public. *See In re Omeprazole Patent Litig.*, 490 F. Supp. 2d 381, 508 (S.D.N.Y. 2007) ("While Impax tries to make much of the fact that patients were not required to sign confidentiality agreements, the lack of a confidentiality agreement is not dispositive as a matter of law."); *Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.*, 364 F. Supp. 2d 820, 912 (S.D. Ind. 2005) ("Defendants' argument that the clinical trials were 'public' because the patients did not sign a confidentiality agreement is unpersuasive and legally unsound. . . the presence or absence of a confidentiality agreement is not controlling."), *aff'd*, 471 F.3d 1369 (Fed. Cir. 2006).

In accordance with industry practice, Bayer Schering could not ethically restrict study subjects from disclosing to their physicians the fact that they were taking an oral contraceptive.

There was also confidentiality between the U.S. clinical trial investigators and their study subjects due to the doctor-patient relationship. *See TP Labs v. Prof'l Positioners, Inc.*, 724 F.2d 965, 972 (Fed. Cir. 1984) ("[I]nventor's continued control . . . here is established inherently by the dentist-patient relationship of the parties.").

Finally, neither the subjects nor the Clinical Investigators were ever told the study drug used micronized drospirenone that dissolved in the stomach. *In re Omeprazole*, 490 F. Supp. 2d at 508 ("Neither the clinical investigators nor the informed consent forms provided to the patients disclosed specific information relating to the structure of the formulation.").

In sum, there is no evidence that Bayer Schering's U.S. clinical trial was "public" under 35 U.S.C. § 102(b).

C. The U.S. Clinical Trial Was Experimental

Even if Barr could prove that Bayer Schering's U.S. clinical trial was public, it cannot prove that it was non-experimental. Experimental use is "[t]he use of an invention by the inventor himself, or of any other person under his direction, by way of experiment, and in order to bring the invention to perfection." *Eli Lilly*, 471 F.3d at 1381.

The U.S. clinical trial protocol stated that the study drug was "currently being investigated . . . and its effectiveness as an oral contraceptive has not yet been established." (JX10, Study Protocol ¶ 14.1, Ellman Decl. Ex. A.) Courts have recognized the importance of encouraging pharmaceutical companies to conduct clinical trials without forcing them to file for patents on formulations before those formulations are adequately tested. Thus, in *Omeprazole,* the Court considered the question of whether a clinical trial was an experimental use:

> **When a pharmaceutical company tests a formulation in clinical trials, it does not know whether the trials will be successful or enable it to file an application for FDA approval. Clinical trial testing is uncertain and many drugs and formulations fail, even after successful prior trials.** Even after an FDA application is filed, there is no assurance that approval will be granted. Impax's proposed theory, if accepted, would unduly force the hand of inventors of new pharmaceutical formulations to file for patents prior to sufficiently testing the safety and efficacy of the formulation. There is simply nothing in the patent law or its underlying policy which requires or supports this.

490 F. Supp. 2d at 509 (internal citation omitted) (emphasis added); *see also Eli Lilly*, 471 F.3d at 1381 (holding clinical trials were an experimental use because they "did not use the drugs to treat schizophrenic patients, but merely to test the safety and efficacy of the drug"). There is no contemporaneous evidence that the U.S. clinical trial was anything but experimental.

Based on the patent law, Barr contends that Bayer Schering "reduced the invention to practice" in European clinical trials, after which time any further clinical testing in the U.S. could not be an experimental use under 35 U.S.C. § 102(b).

The Federal Circuit has held that a reduction to practice "does not occur *until the inventor has determined* that the invention will work for its intended purpose." *Estee Lauder Inc. v. L'Oreal, S.A.*, 129 F.3d 588, 593 (Fed. Cir. 1997) (emphasis added). In *Estee Lauder*, Estee Lauder sought to prove it reduced an invention to practice by April 13, 1987, based on evidence that it had "conceived its invention, prepared the composition of the count, and sent the composition to be tested." *Id.* at 592. The testing was successful, and Estee Lauder argued that fact was enough to demonstrate a reduction to practice. Thus, the question on appeal was:

> must there be some recognition of successful testing prior to the critical date for an invention to be reduced to practice, or is it only necessary that the testing be completed before the critical date and ultimately prove successful, regardless of when that success is appreciated or recognized?

Id. at 593. The Federal Circuit held a reduction to practice turns on the inventor's state of mind and therefore the reduction to practice "does not occur *until the inventor has determined* that the invention will work for its intended purpose." *Id.* (emphasis added).

The evidence will show that the U.S. clinical trial was a necessary test of the study drug in the U.S. population. The FDA recognized, along with Bayer Schering, that European clinical studies, though supportive, could not by themselves establish contraceptive effectiveness for the U.S. (*See* PTX162, SBPL00000087; ("U.S. Study will recruit a more varied ethnic mix to better reflect the U.S. population.")). Bayer Schering's foreign clinical work did not dispense with the scientific need to conduct an experimental U.S. clinical trial.

III. BARR CANNOT PROVE INEQUITABLE CONDUCT

A. The Legal Standard

Inequitable conduct is an equitable defense to patent infringement. *Metoprolol Succinate Patent Litig. v. KV Pharm. Co.*, 494 F.3d 1011, 1020 (Fed. Cir. 2007). Barr must prove its inequitable conduct allegations by clear and convincing evidence. *Young v. Lumenis, Inc.*, 492

F.3d 1336, 1345 (Fed. Cir. 2007) ("Both elements of a conclusion of inequitable conduct, intent and materiality, are questions of fact and must be proven by clear and convincing evidence.").

Inequitable conduct includes affirmative misrepresentations of material facts and non-disclosure of material information. *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1068-71 (Fed. Cir. 1998). This requires a determination of whether the withheld information meets a threshold level of materiality and whether there was an intent to deceive. *Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1362-63 (Fed. Cir. 2003). If the trial court finds that Barr has met the threshold levels of materiality and intent to deceive, the court then has to balance those factors to determine whether there was inequitable conduct. *Id*.

Information is "material" if a "substantial likelihood exists that a reasonable examiner would consider it important in deciding whether to allow the application to issue as a patent". *Fox Indus., Inc. v. Structural Preservation Sys., Inc.*, 922 F.2d 801, 803 (Fed. Cir. 1990) (citation omitted). The patent law, 37 C.F.R. § 1.56, imposes the following duty on individuals: "[e]ach individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office **all information known to that individual to be material to patentability**." (emphasis added).

B. Dr. Ellman Did Not Commit Inequitable Conduct

Dr. Herman Ellman, who ran Bayer Schering's U.S. clinical trial, submitted a declaration to the PTO during the '531 prosecution. Ellman disclosed that Bayer Schering conducted a U.S. clinical trial and that he was the study manager. Ellman explained why that clinical trial was not public and was experimental. Barr alleges that Ellman deliberately hid information on Bayer Schering's European clinical trials of the Yasmin® formulation because Ellman supposedly

knew that the inventors had already reduced the invention to practice in Europe before the U.S. clinical trial ever began. (Barr Am. Answer ¶¶ 29-53 (Oct. 30, 2007).)

As we explained above, Barr cannot establish that the U.S. clinical trial was a public use under 35 U.S.C. § 102(b). Yet, even assuming Barr could prove the U.S. clinical trial was a public use, that finding would not establish that Dr. Ellman committed inequitable conduct. In *Nordberg, Inc. v. Telsmith*, the court explained:

> Moreover, while the Court has held the patent invalid as a result of the Tanner use, **the issue was a close one and turned upon an interpretation of the legal requirements for a 'reduction to practice', an issue which the Federal Circuit itself has had difficulty defining in clear and reliable terms.** Under these circumstances, it is clear to the Court that Nordberg had a good faith basis for deciding that the Tanner use was not material. **Inequitable conduct is not established simply because this good faith belief proved incorrect as a matter of law.**

36 U.S.P.Q.2d 1577, 1621 (E.D. Wis. 1995) (emphases added). There is no evidence that Ellman had concluded that the inventors had determined that the invention would work for its intended purpose in the U.S based on European clinical trials.

Barr also alleges that Ellman failed to disclose European clinical trial "information that shows that as of at least May 1992 the claimed invention was indeed safe and effective for its proposed used in human females." (Barr Am. Answer ¶ 48.) Barr is wrong.

Ellman submitted as Exhibit A to his declaration the Protocol for the U.S. clinical trial, which disclosed that there were several clinical trials in Europe prior to the U.S. clinical trial. (JX10, Study Protocol 8, Ellman Decl. Ex. A.) Ellman also submitted, as Exhibit D to his declaration, the Investigator's Brochure from the U.S. clinical trial, which included contraceptive "efficacy" data from the European clinical trials. (*Id.*, Investigator's Brochure 26-27, Ellman Decl. Ex. D.) The '531 patent Examiner considered the Ellman declaration and all of its Exhibits. (JX2, '531 File History SBPL03501728.)

Finally, there is no evidence that Ellman understood or even considered the complicated syllogism behind Barr's theory of intent to deceive. To attribute motive to Ellman to lie to the PTO, Barr suggests Ellman must have concluded that the U.S. clinical trial was "public" because the individual study subjects did not sign confidentiality agreements, even though that is standard industry practice. Next, Barr suggests Ellman must have anticipated that the Patent Examiner would find the U.S. clinical trial was public and then look at whether the trial was experimental, as the second step in a § 102(b) analysis. Barr then argues that Ellman knew that the inventors had already determined that the claimed invention was effective for oral contraception in the U.S. population because they had already reduced their invention to practice during earlier European clinical trials before the U.S. trial. For this supposed reason, Ellman allegedly hid information on the European clinical trials, lest the Examiner find a prior reduction to practice.

Thus, Barr must prove by clear and convincing evidence that Ellman knew the European clinical trials constituted a prior reduction to practice of the '531 invention and deliberately hid that information from the PTO. *Eli Lilly*, 471 F.3d at 1382 ("In a case involving an omission of a material reference to the PTO, the record must contain clear and convincing evidence that the applicant made a deliberate decision to withhold a known material reference.") (citations omitted). Barr will not show Ellman had any such intent to deceive.

C. Dr. Lipp Did Not Commit Inequitable Conduct

Dr. Ralph Lipp, one of the inventors, submitted a declaration to the PTO during the prosecution of the '531 patent. Lipp was responding to the Examiner's rejection based on prior art that taught micronization can lead to increased bioavailability. (JX2, '531 File History SBPL03500393.) Barr alleges that Lipp made two material misstatements: 1) "[m]icronization in many cases increases the solubility of a drug;" and 2) "micronization of other drugs does not

necessarily lead to increased bioavailability over other forms or can be detrimental to bioavailability." (JX11, Lipp Decl. ¶¶ 8 & 10.)

As to the first alleged misstatement, Lipp admitted in his deposition that in hindsight a better term to use would have been "dissolution rate" instead of "solubility." Lipp explained that these terms are often confused, and that dissolution rate would have been more proper. Bayer Schering later explained the same Lipp declaration to the Patent Examiner in terms of micronization promoting "rapid dissolution," as opposed to solubility. (JX2, '531 File History SBPL03501665.) Also, there is no evidence that Lipp's use of the term "solubility" instead of "dissolution rate" confused the Examiner. The Examiner's reasons for allowance show the focus for patentability was on dissolution and not solubility. (*Id*. at SBPL03501722.)

Barr's second allegation against Dr. Lipp relates to his statement in ¶ 10 of his declaration: "References 1-2, and 4-10 in Appendix B show that micronization of other drugs does not necessarily lead to increased bioavailability over other forms or can be detrimental to bioavailability." (JX11, Lipp Decl. ¶ 10.) Barr's expert, Dr. Chambliss, agreed that "micronization of drugs does not necessarily lead to increased bioavailability over other forms." Yet, Barr says that Lipp lied because he knew that the references he gave to the patent Examiner did not support the statement with which Barr's expert agrees.

To conjure up Lipp's inequitable conduct, Barr's expert Dr. Chambliss argues that "other forms," as Lipp used the term, must mean only different crystalline forms (microcrystallines vs. macrocrystallines) and not "other formulations." Lipp testified, however, that his use of "other forms" is broader and includes "different formulations."

But apart from what Lipp meant by "other forms," there can be no inequitable conduct here because Lipp gave the Examiner the references that Barr contends Lipp misrepresented in

support of his true statement in ¶ 10. The Examiner considered those references and they appear on the face of the '531 patent. (JX2, '531 File History SBPL03501726; JX1, '531 patent.)

Where the examiner has the references, an applicant's arguments about what they show cannot be inequitable conduct. *See Young*, 492 F.3d at 1349 ("The examiner had the Fossum Reference to refer to during the reexamination proceeding and initially rejected claim 1 based on that reference. Young argued against the rejection, and the examiner was free to reach his own conclusions and accept or reject Young's arguments."); *Akzo N.V. v. U.S. Int'l Trade Comm'n*, 808 F.2d 1471, 1482 (Fed. Cir. 1986) (Applicants arguments are not inequitable conduct where "examiner was free to reach his own conclusion regarding" [the prior art at issue].).

There is no evidence that Dr. Lipp had any intent to deceive the '531 Examiner. Indeed, the fact that Lipp provided the references to the Examiner dispels any notion of an intent to deceive. *See Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 106 F. Supp. 2d 667, 679-80 (D.N.J. 2000) (finding that disclosure of a reference to the PTO in a subsequent patent application was evidence of good faith that "weighs against a finding of mendacious intent"); *Kimberly-Clark Corp. v. Procter & Gamble Distrib. Co.*, 973 F.2d 911, 918 (Fed. Cir. 1992) (disclosing allegedly withheld reference in sibling application "is not consistent with an intent to deceive"). Dr. Lipp did not commit inequitable conduct.

CONCLUSION

Barr cannot establish by clear and convincing evidence at trial that: the invention claimed in the '531 patent was obvious, Bayer Schering's U.S. clinical trial was an invalidating public use, or Drs. Ellman or Lipp committed inequitable conduct.

Respectfully Submitted:

Dated: November 9, 2007 /s/ William O'Shaughnessy

William O'Shaughnessy
Nicole Corona
Jonathan M.H. Short
McCARTER & ENGLISH, LLP
Four Gateway Center
100 Mulberry Street
Newark, New Jersey 07102
Phone: (973) 622-0444
Facsimile: (973) 624-7070
woshaughnessy@mccarter.com
ncorona@mccarter.com
jshort@mccarter.com

Of Counsel:

Peter B. Bensinger, Jr.
Michael J. Valaik
Adam K. Mortara
Sundeep K. Addy
BARTLIT BECK HERMAN PALENCHAR & SCOTT LLP
Courthouse Place
54 West Hubbard Street
Chicago, Illinois 60610
Phone: (312) 494-4400
Facsimile: (312) 494-4440

Nicholas N. Kallas
Filko Prugo
FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, NY 10112
Phone: (212) 219-2100
Facsimile: (212) 218-2220